

# Collaborative Commerce

## Electronic Commerce



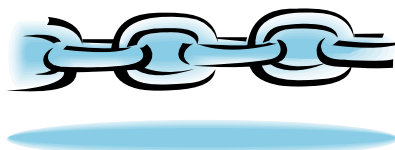
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- Course: Electronic Commerce
- Period: Autumn 2013
- Professor: Sync Sangwon Lee, Ph. D
- D. of Information & Electronic Commerce

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- 08. Collaboration Tools

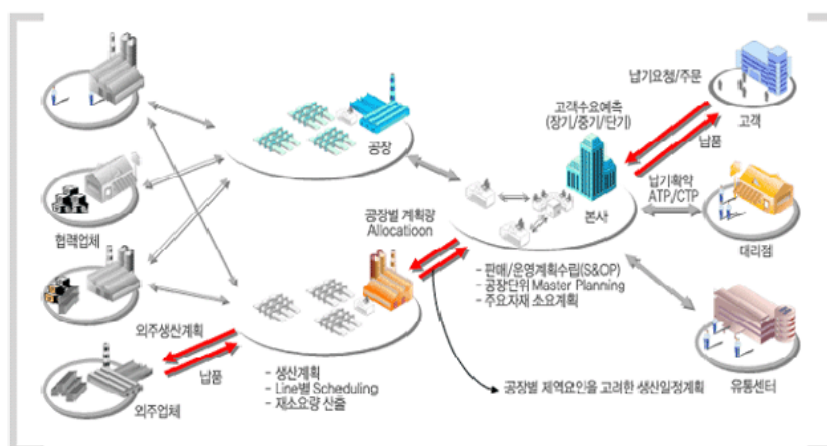
# 01. E-Supply Chains

- Supply Chain
  - The flow of materials, information, money, and services from raw material suppliers through factories and warehouses to the end customers.
- E-Supply Chain
  - A supply chain that is managed electronically, usually with Web technologies.



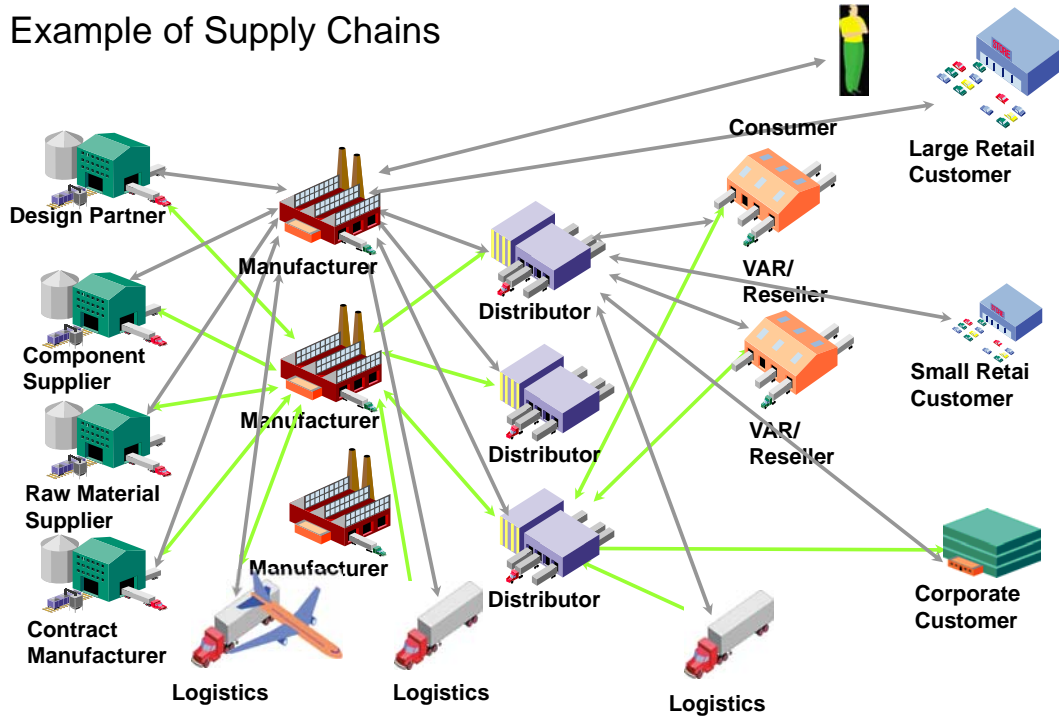
# 01. E-Supply Chains

- An Example of Supply Chains



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- An Example of Supply Chains



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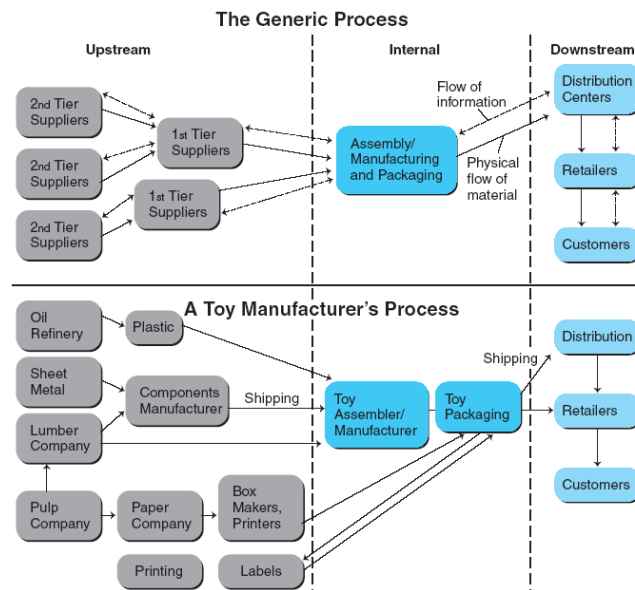
# 01. E-Supply Chains

- Supply Chain Parts
  - Upstream supply chain
    - Procurement
    - The process made up of a range of activities by which an organization obtains or gains access to the resources (materials, skills, capabilities, facilities) they require to undertake their core business activities.
  - Internal supply chain and value chain
  - Downstream supply chain

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# 01. E-Supply Chains

- The Structure of Supply Chain Parts
  - With an example of toy manufacturing

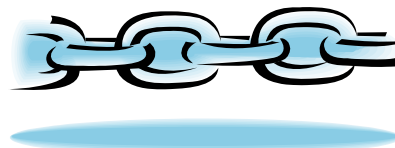


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# 01. E-Supply Chains

- Supply Chain Management (SCM)
  - A complex process that requires the coordination of many activities so that the shipment of goods and services from supplier right through to customer is done efficiently and effectively for all parties concerned.
- E-Supply Chain Management (E-SCM)
  - The collaborative use of technology to improve the operations of supply chain activities as well as the management of supply chains.



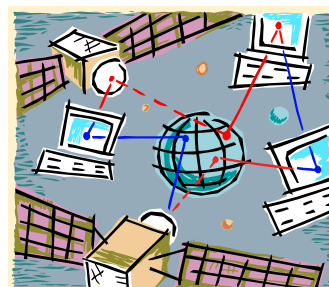
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## 01. E-Supply Chains

- Activities of E-SCM
  - Supply chain replenishment
  - E-procurement
    - The use of Web-based technology to support the key procurement processes, including requisitioning, sourcing, contracting, ordering, and payment.
  - Supply chain monitoring and control using RFID
    - Cf. RFID(Radio Frequency Identification)
  - Inventory management using wireless devices
  - Collaborative planning
    - A business practice that combines the business knowledge and forecasts of multiple players along a supply chain to improve the planning and fulfillment of customer demand.
  - Collaborative design and product development
  - E-logistics
  - Use of B2B exchanges and supply webs

## 01. E-Supply Chains

- Infrastructure of E-SCM
  - EDI(Electronic Data Interchange)
  - Extranets
  - Intranets
  - Corporate portals
  - Workflow systems and tools
  - Groupware and other collaborative tools



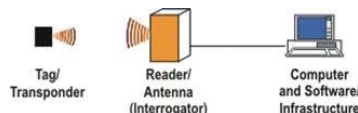
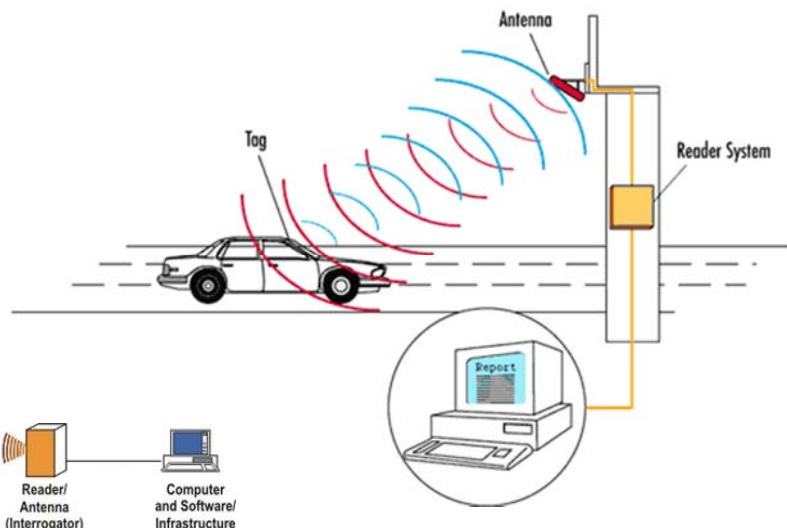
## 02. Supply Chain Problems & Solutions

- Supply Chain Problems
  - Typical problems along the supply chain
    - Bullwhip effect: erratic shifts in orders up and down supply chains.
  - The need for information sharing along the supply chain



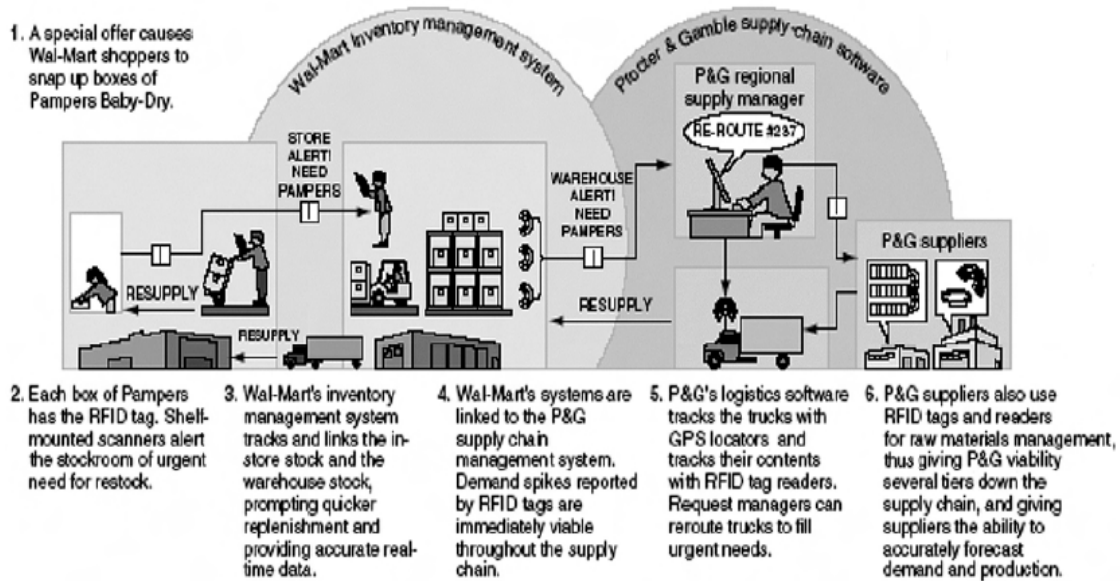
## 03. RFID as a Key Enabler of Supply Chains

- Radio Frequency Identification (RFID)
  - A technology that uses electronic tags (chips) instead of bar codes to identify items. RFID readers use radio waves to interact with the tags.



# 03. RFID as a Key Enabler of Supply Chains

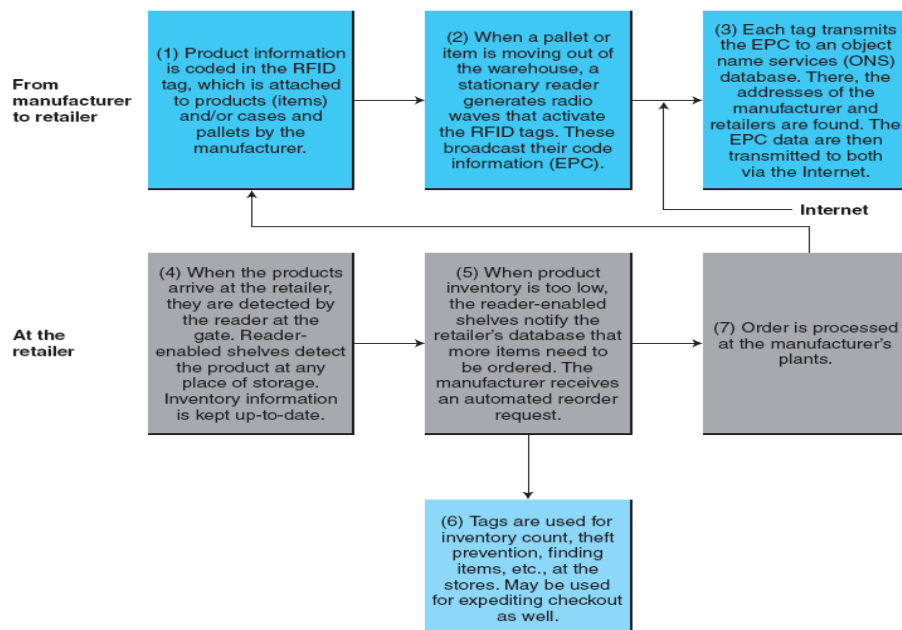
## • How RFID Tags Smooth Supply Chain



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# 03. RFID as a Key Enabler of Supply Chains

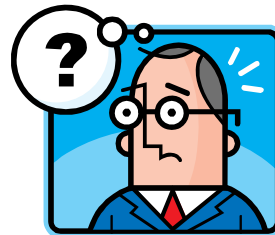
## • How RFID Works in a Manufacturer-Retailer Supply Chain



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## 03. RFID as a Key Enabler of Supply Chains

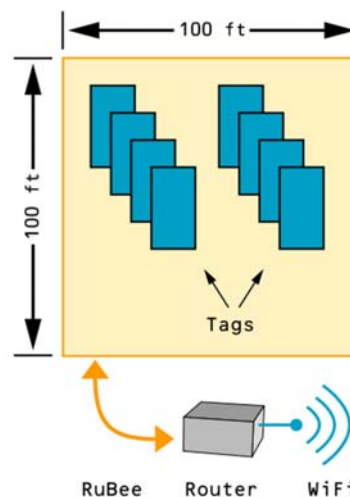
- Limitations of RFID
  - For small companies, the cost of the system may be too high (at least for the near future).
  - The lower-frequency systems (300 to 500 Khz) required for passive tags are much cheaper but offer a decreased range.
  - Radio frequency interference and the limited range of passive RFID tags also may be problematic, especially because passive tags are the most economically viable option for some businesses.



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## 03. RFID as a Key Enabler of Supply Chains

- RuBee
  - An alternative to RFID?
    - Bidirectional, on-demand, peer-to-peer radiating transceiver protocol under development by the Institute of Electrical and Electronics Engineers.



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## 04. Collaborative Commerce

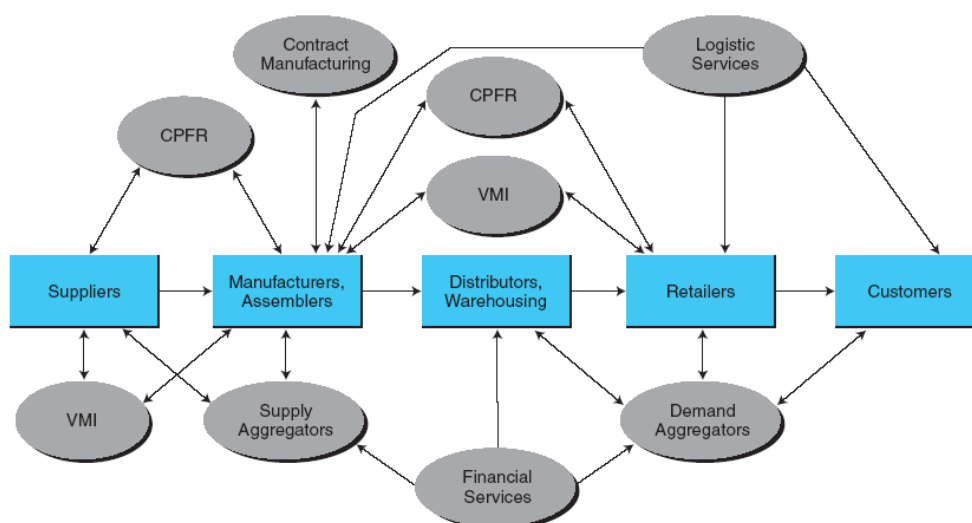
- Collaborative Commerce (C-Commerce)
  - The use of digital technologies that enable companies to collaboratively plan, design, develop, manage, and research products, services, and innovative EC applications.



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## 04. Collaborative Commerce

- Traditional Collaborative Supply Chain vs. Collaborative Networks

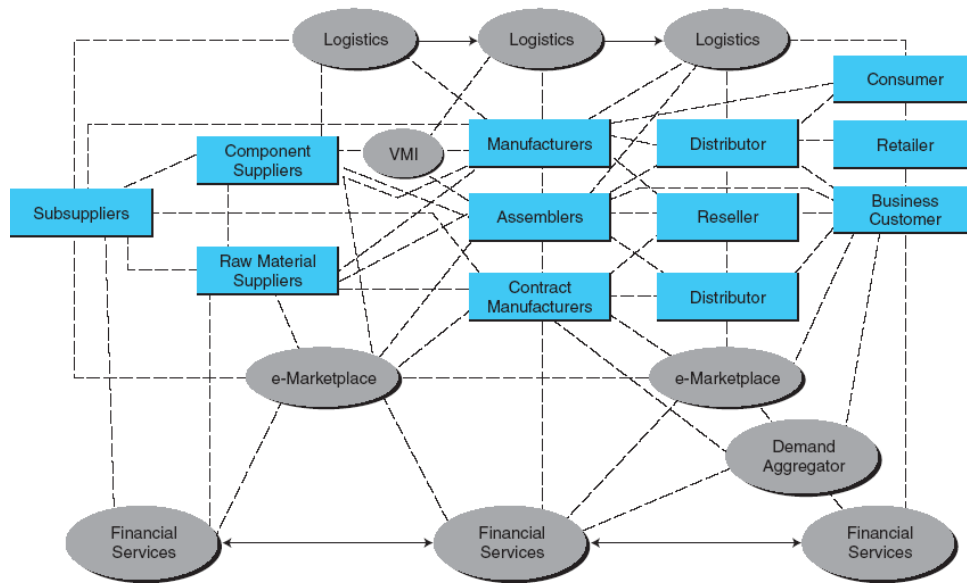


Part A. Traditional collaboration, including CPFR. Collaboration agents and efforts are shown as ovals.

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## 04. Collaborative Commerce

- Traditional Collaborative Supply Chain vs. Collaborative Networks



Part B. Supply chains are evolving into collaborative networks. Ovals designate agents and services.

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## 04. Collaborative Commerce

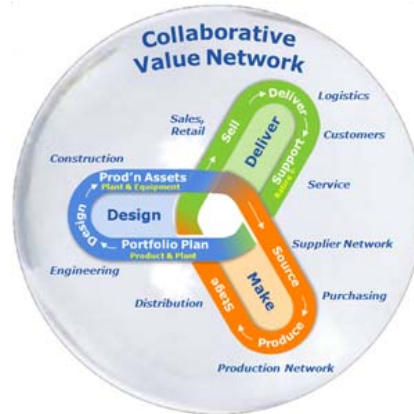
- Collaboration Hub
  - The central point of control for an e-market.
  - A single collaborative hub (c-hub), representing one e-market owner, can host multiple collaboration spaces (c-spaces) in which trading partners use collaboration enablers (c-enablers) to exchange data with the c-hub.



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# 04. Collaborative Commerce

- Collaborative Networks
  - Ex. mobile collaborative networks



<http://www.arcweb.com>

# 04. Collaborative Commerce

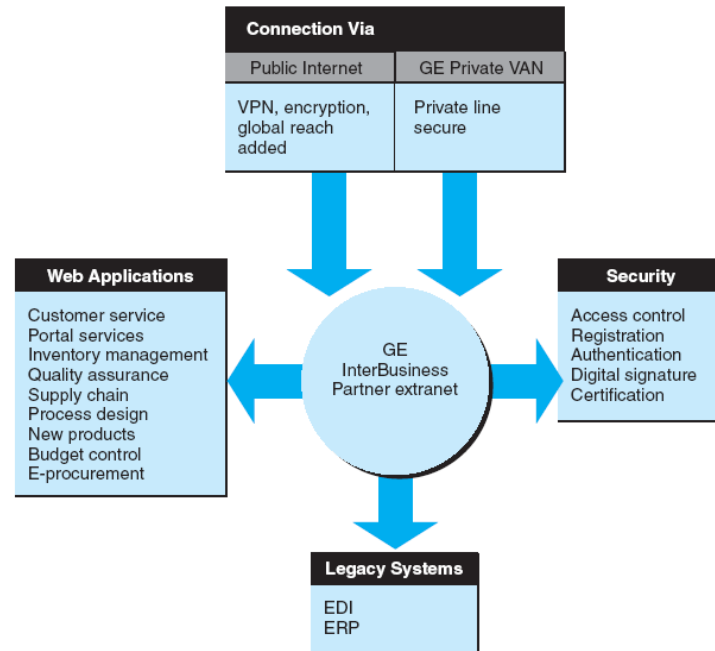
- Vendor-Managed Inventory (VMI)
  - The practice of retailers' making suppliers responsible for determining when to order and how much to order.



<http://dadhri.homestead.com>

## 04. Collaborative Commerce

- An Example of Collaborative Commerce



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## 05. Collaborative Planning & Design

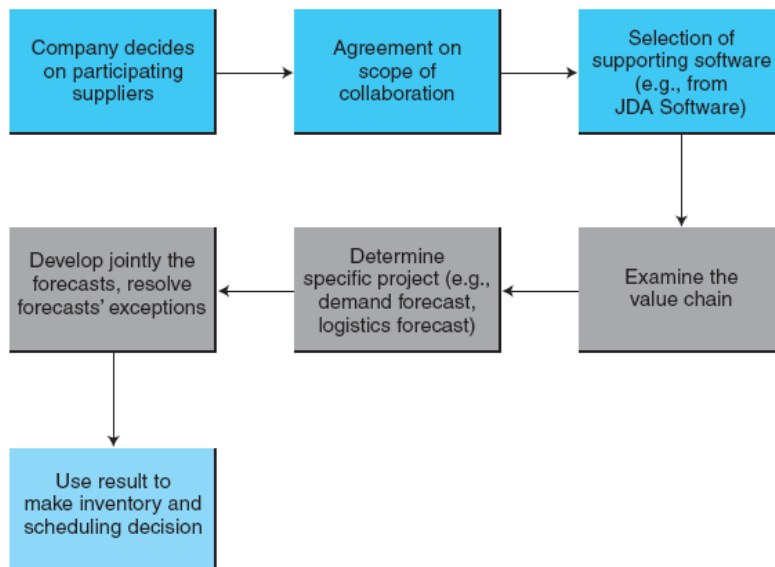
- Collaborative Planning, Forecasting, and Replenishment (CPFR)
  - Project in which suppliers and retailers collaborate in their planning and demand forecasting to optimize flow of materials along the supply chain.



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# 05. Collaborative Planning & Design

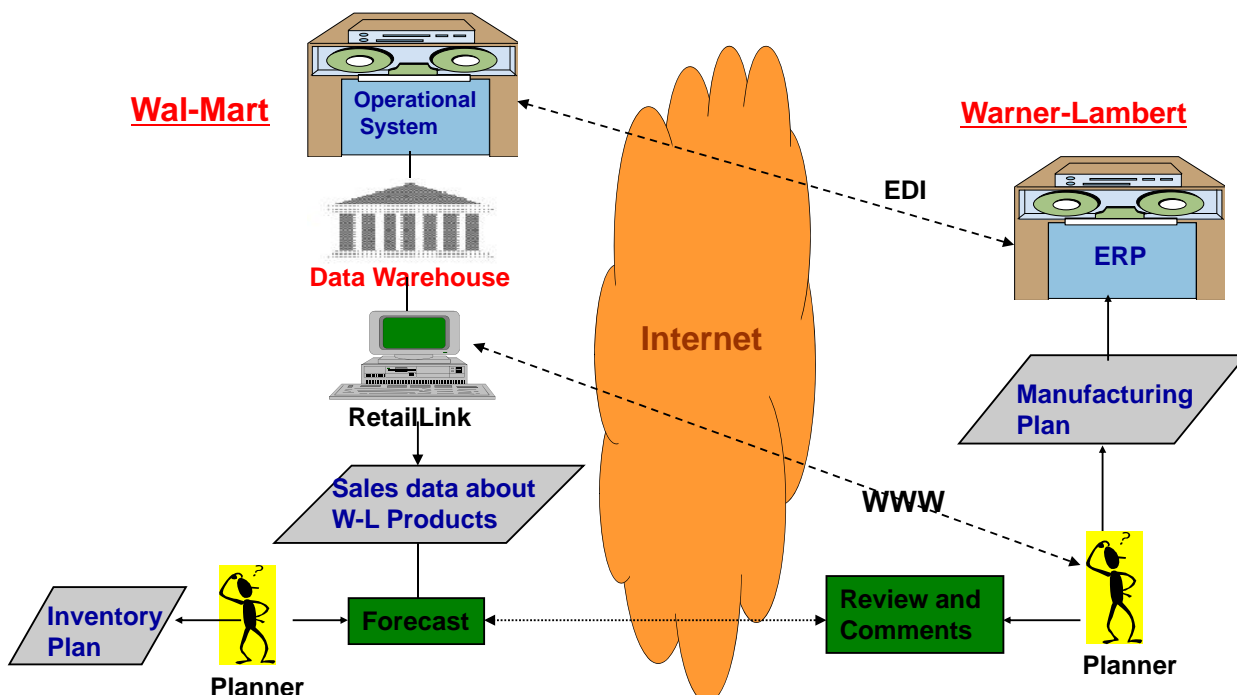
- Collaborative Planning, Forecasting, and Replenishment (CPFR)
  - Process of CPFR



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# 05. Collaborative Planning & Design

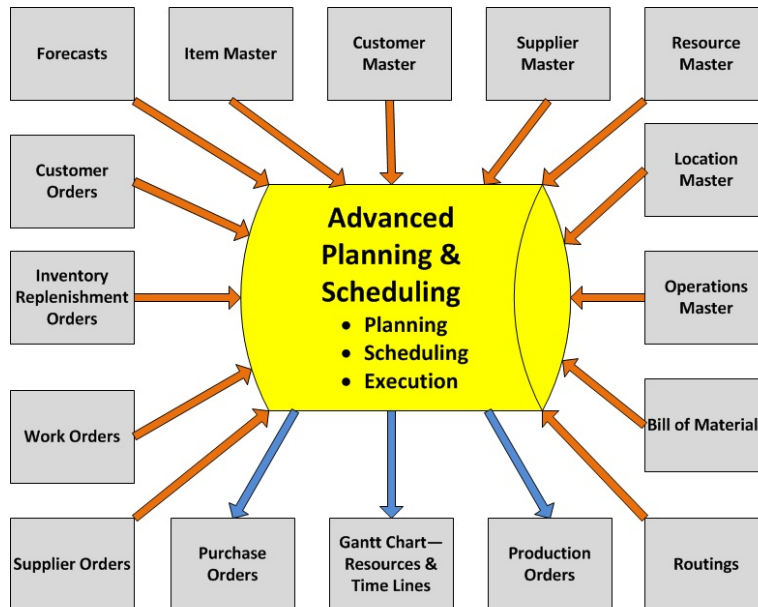
- Collaborative Planning, Forecasting, and Replenishment (CPFR)
  - An example of CPFR by Wall-Mart and Warner-Lambert



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## 05. Collaborative Planning & Design

- Advanced Planning and Scheduling (APS) Systems
  - Programs that use algorithms to identify optimal solutions to complex planning problems that are bound by constraints.

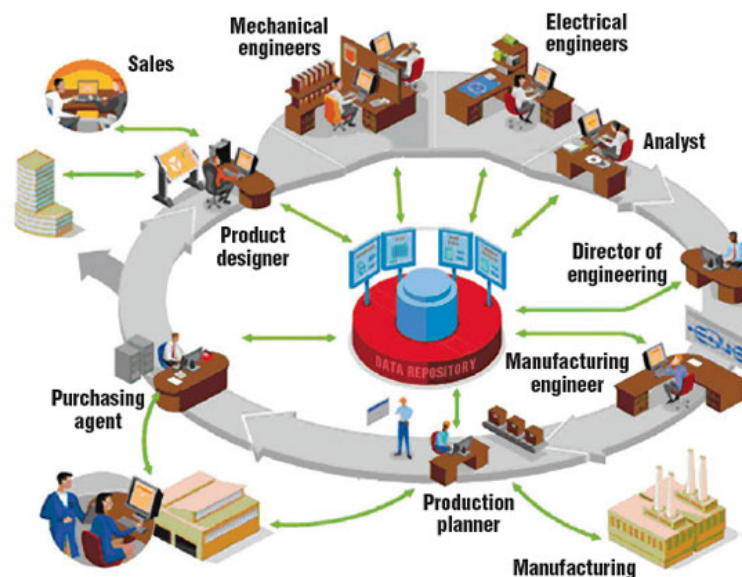


<http://www.scmsoft-llc.com>

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## 05. Collaborative Planning & Design

- Product Lifecycle Management (PLM)
  - Business strategy that enables manufacturers to control and share product-related data as part of product design and development efforts.



<http://www.product-lifecycle-management.info>

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## 05. Collaborative Planning & Design

- Supporting Joint Design



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## 06. Supply Chain Integration

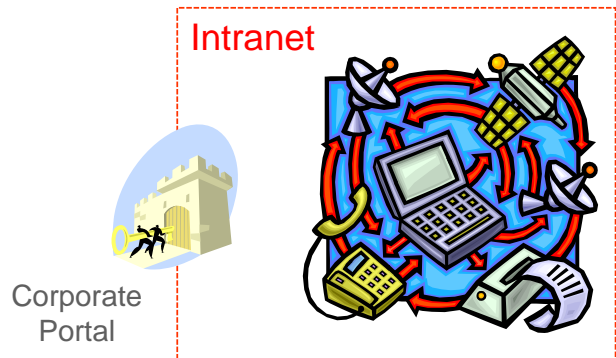
- Issues
  - Deciding how information systems are integrated
  - Integrating along the extended supply chain
  - Establishing standards



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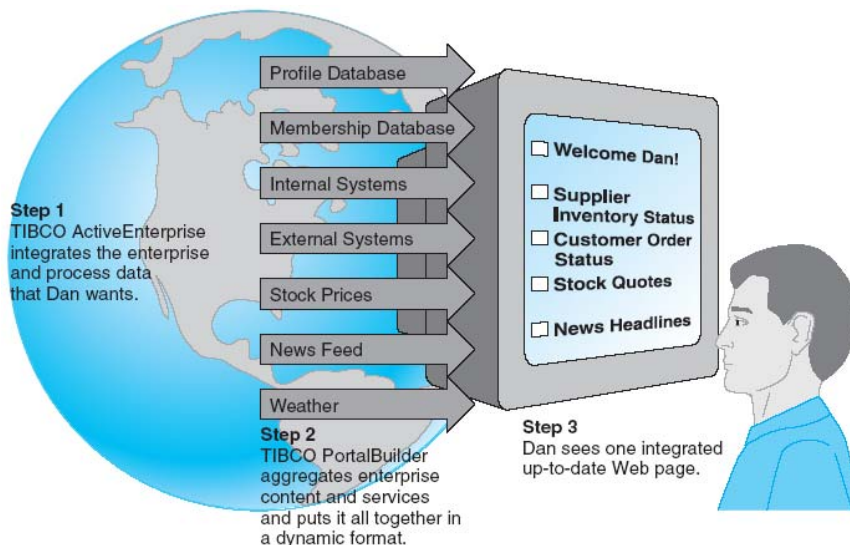
## 07. Corporate (Enterprise) Portals

- Corporate (Enterprise) Portal
  - A gateway for entering a corporate Web site, enabling communication, collaboration, and access to company information.



## 07. Corporate (Enterprise) Portals

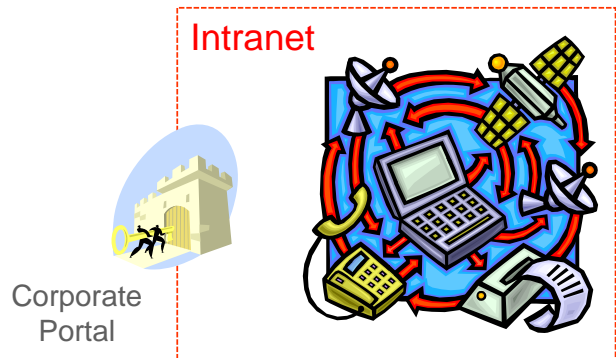
- Corporate Portal as a Gateway to Information





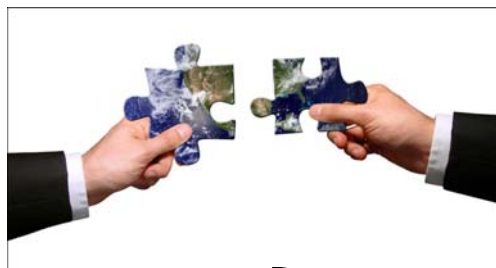
## 07. Corporate (Enterprise) Portals

- Types of Corporate Portals
  - Portals for suppliers and other partners
  - Customer portals
  - Employee portals
  - Executive and supervisor portals
  - Mobile portals
    - Portals accessible via mobile devices, especially cell phones and PDAs.



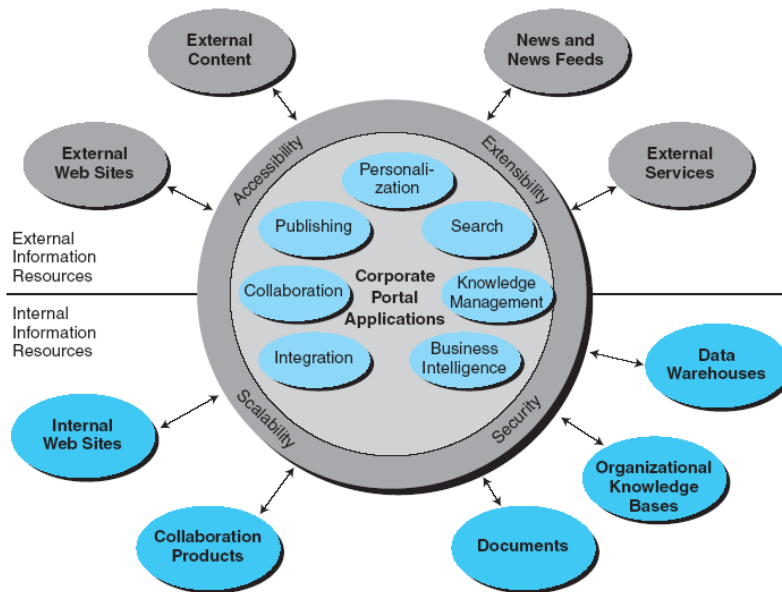
## 07. Corporate (Enterprise) Portals

- The Functionalities of Portals
  - As information portals
    - Portals that store data and enable users to navigate and query the data.
  - As collaborative portals
    - Portals that enable collaboration



# 07. Corporate (Enterprise) Portals

- Corporate Portal Framework



# 08. Collaboration Tools

- Groupware
  - Software products that use networks to support collaboration among groups of people who share a common task or goal



## 08. Collaboration Tools

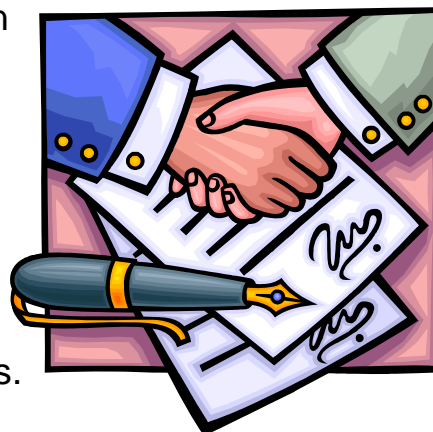
- Electronic Meeting Systems (Virtual meetings)
- Real-Time Collaboration Tools
- Mobile Communication and Collaboration Platforms
- Web Collaboration



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## 08. Collaboration Tools

- Electronic Teleconferencing
  - Teleconferencing
    - The use of electronic communication that allows two or more people at different locations to have a simultaneous conference.
  - Video teleconference
    - Virtual meeting in which participants in one location can see participants at other locations on a large screen or a desktop computer.
  - Data conferencing
    - Virtual meeting in which geographically dispersed groups work on documents together and exchange computer files during videoconferences.
- Web Conferencing



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## 08. Collaboration Tools

- Voice-over-IP (VoIP)
  - Communication systems that transmit voice calls over Internet-Protocol-based networks.
- Interactive Whiteboards
- Screen-Sharing Software
  - Software that enables group members, even in different locations, to work on the same document, which is shown on the PC screen of each participant.
- Instant Video
- Integration and Groupware Suites
  - Ex. Lotus Notes/Domino

